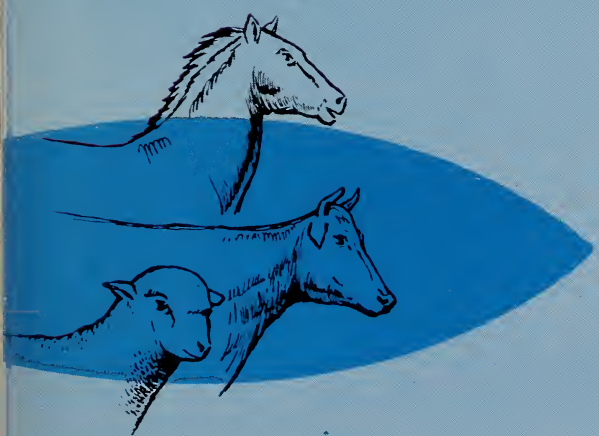
# REDUCING LIVESTOCK LOSSES from Horsebrush POISONING in the Western States





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UNITED STATES DEPARTMENT OF AGRICULTURE

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Two species of horsebrush, which grow in the Great Basin regions of the West, are known to be poisonous to livestock—little-leaf horsebrush [1] and spineless horsebrush.[2] Sheep that feed on them may contract bighead, or swellhead. The most conspicuous symptom of the disease is a swelling of the head when animals are exposed to sunlight.

Under range conditions, only sheep are affected by horsebrush. Most losses occur when animals are trailed through heavily infested areas that do not support good forage. Hungry sheep often will eat toxic quantities of horsebrush after watering.

All plant parts are poisonous, but sheep eat only the leaves and fine stems. Both species are highest in toxicity when they are making their most active growth—from April to late July—and lowest in toxicity after flowering and during the dormant stage. Little-leaf is about two-and-a-half times more toxic than spineless horsebrush.

## Where and When It Grows

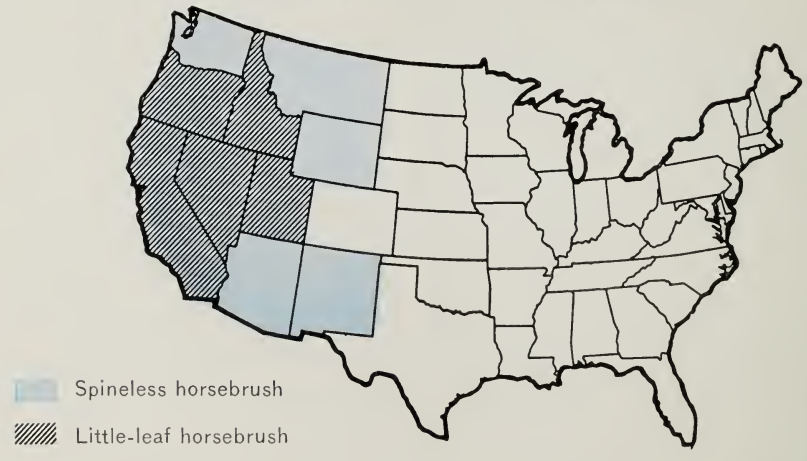
*Little-leaf horsebrush:* It is most abundant on benchlands, well-drained slopes, and low elevations on the winter ranges; it is often found in areas of lava formations.

This species is one of the earliest desert range plants to start growth in the spring; it is usually in full flower by the end of May. Its leaves dry up and drop off in early June, and the plant remains dormant until the following spring. It makes little growth in extremely dry seasons.

[1] *Tetradymia glabrata.* It also is called smooth horsebrush, spring rabbit brush, coal-oil brush, lizard shade, rat brush, dog brush.

[2] *T. canescens* var. *inermis.* It also is called gray horsebrush.

### DISTRIBUTION OF HORSEBRUSH



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Little-leaf horsebrush (top) is a strong-scented shrub that often reaches a height of 3 feet. The stems are abundantly branched; the leaves are slender and come to a sharp point. The flowers are yellow when they first appear, and change to gray after they mature and dry.

Spineless horsebrush (bottom) reaches a height of about 2 feet. Hairs that cover the stems and leaves give the plant a silvery appearance. The leaves, which are broader and longer than those of the little-leaf species, are up to 1 inch long.

Both plants are perennial and belong to the sunflower family.

*Spineless horsebrush:* It is most abundant in sagebrush areas and foothill regions; it is also scattered throughout portions of the little-leaf horsebrush area.

Spineless horsebrush starts growth later than little-leaf horsebrush. The plant flowers in June or July and usually remains green until fall.

## How It Affects Livestock

Scientists believe that bighead occurs after certain toxic substances in horsebrush get into the animal's bloodstream and create a condition that sensitizes the skin to light. The belief is supported by the fact that the swelling always occurs in light-skinned animals and is more severe in direct sunlight.

The liver is the organ most seriously affected by horsebrush poisoning. Animals may die as a result of liver injury before any head swelling occurs. Many ewes abort from eating a toxic dose of horsebrush; a large percentage of them may become sterile.

About ½ pound of leaves and fine stems of little-leaf horsebrush, or 1¼ pounds of leaves and stems of spineless horsebrush, will usually cause bighead in a 100-pound sheep.

***The following are symptoms of horsebrush poisoning:***

1. **Depression**
2. **Weakness (death sometimes occurs without other symptoms)**
3. **Sensitiveness and irritation about the head, followed by swelling of the head, the neck, the ears, the eyelids, and the nose**

## How To Reduce Livestock Losses

Bighead is principally a trail disease. Herders can prevent losses by avoiding horsebrush ranges while trailing sheep, and by not permitting animals to graze in infested areas immediately after watering.

Sheep often recover from bighead. Affected animals should be placed in the shade, if possible, given water and feed, and left undisturbed for a few days. Supplemental hay feeding may be beneficial.

Eradication is not practicable.

## Where To Obtain More Information

You can obtain more information about horsebrush poisoning by getting in touch with your county agricultural agent or by writing to your State agricultural experiment station or to the U. S. Department of Agriculture. Consult your local veterinarian if you have any questions regarding affected animals. *Note:* The map on page 2 shows areas where most livestock poisoning has been reported. It is possible that horsebrush grows in other areas.

***Know Poisonous Plants • Reduce Livestock Losses***

*Prepared by the Animal Disease and Parasite Research Division, Agricultural Research Service. Acknowledgment is made to the staff of the Utah Agricultural Experiment Station.*

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